

Appendix B  
**Clean** Version of  
Claims 4, 7, 10~12, 14 and 15  
(With amendments incorporated)

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A1 4. (once amended) A stabilized  $\text{AlPO}_4$  composition having a  $\beta$  cristobalite structure, and comprising XO,  $\text{SiO}_2$  and  $\text{AlPO}_4$  at a ratio of greater than 0 to less than about 4 mole percent XO, greater than 0 to less than about 10 mole percent  $\text{SiO}_2$ , and greater than about 86 to less than about 100 mole percent  $\text{AlPO}_4$ , wherein X is any cation with an atomic radius of about 1 angstrom that fits stably within the interstices of the cristobalite structure.

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7. (once amended) A method for stabilizing  $\text{AlPO}_4$  ceramic microstructures comprising the steps of:

A2 a) admixing an acidic solution of  $\text{AlPO}_4$  to solutions of  $\text{SiO}_2$  and a calcium oxide source wherein the mole percent ratios are greater than about 86 to less than about 100  $\text{AlPO}_4$ , greater than 0 to less than about 10  $\text{SiO}_2$ , and greater than 0 to less than about 4 calcium oxide source;

b) forming a slurry from the admixture formed in step (a);

c) removing water from the slurry formed in step (b) to form a precipitate; and

d) heating the precipitate.

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A3 10. (once amended) The method of Claim 7, 8 or 9 wherein the mole percent ratios are 0 to about 3 calcium oxide source, 0 to about 6  $\text{SiO}_2$ , and about 91 to about 100  $\text{AlPO}_4$ .

11. (once amended) The method of Claim 7, 8 or 9 wherein the mole percent ratios are about 2.3 calcium oxide source, about 5.7  $\text{SiO}_2$ , and about 92  $\text{AlPO}_4$ .

12. (once amended) A single phase, cristobalite  $\text{AlPO}_4$   
composition that has a cubic structure, space group F-43m, with  
a ~ 7.2 Angstroms at a temperature of less than about 270°C.

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14. (once amended) A composition according to Claim 12  
comprising a silica dopant, and a dopant having a cation with an  
atomic radius of about 1 angstrom that fits stably within the  
interstices of the cristobalite structure.

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15. (once amended) A composition according to Claim 14  
wherein the dopant having a cation with an atomic radius of about  
1 angstrom that fits stably within the interstices of the cristobalite  
structure is  $\text{CaO}$ .

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